National Environmental Laboratory **Accreditation** Conference

nelac

FIELD ACTIVITIES

PROPOSED CHANGES

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7.0 FIELD ACTIVITIES

INTRODUCTION

This chapter includes standards for sampling and field measurement activities. Many of the general requirements are covered in other chapters; this chapter covers field operations which are not explicitly covered in other NELAC standards. Because of the use of temporary facilities, field equipment, and the effect of environmental conditions, field standards are necessary to ensure the adequacy of the resulting data.

7.1 GENERAL FIELD SAMPLING STANDARD

7.1.1 Scope

a) This standard closely follows the sampling elements of ISO/IEC 17025, "General Requirements for the competence of testing and calibration laboratories;" 1999. References to ISO 17025 are given in brackets.

b) [See 17025, Sections 1.1 and 1.2]

7.1.2 Technical records

[See 17025, Section 4.12.2.2].

7.1.3 Personnel

a) [See 17025, Section 5.2.3].

b) [See 17025, Section 5.2.2].

c) [See 17025, Section 5.2.5].

7.1.4 Accommodation and environmental conditions

[See 17025, Section 5.3.1].

7.1.5 Sampling Methods

{See 17025, Section 5.4.1].

a) [See 17025, Section 5.4.2].

b) [See 17025, Section 5.4.5.2].

7.1.6 Equipment

a) [See 17025, Section 5.5.1].

b) [See 17025, Section 5.5.2].

7.1.7 Sampling Procedures [See 17025, Section 5.7, 4.7]

7.1.8 Test reports [See 17025, Section 5.10.3.2]

In addition to the requirements listed in Quality Systems Section 5.13, test reports containing the results of sampling shall include the following, where necessary for the interpretation of test results: [See 17025, Section 5.10.3.2]

7.2 (RESERVED)

7.3 MEASUREMENT OF SOURCE EMISSIONS (MSE)

7.3.1 Introduction

These standards are for use by accrediting authorities and others concerned with the competence of environmental emission measurement companies and other organizations directly involved and interested in the standardization of environmental measurements.

The scope of these standards shall encompass the necessary emission measurements of source emissions to serve the needs of the States, United States Environmental Protection Agency (EPA), and other federal agencies involved in the generation and use of environmental data, where such generation or use is mandated by EPA statutes and pursuant regulations. Emission measurement companies and organizations are encouraged to use these NELAC standards for all other tests. Some of the applicable Federal statutes are the Clean Air Act (CAA), the Resource Conservation and Recovery Act (RCRA), and the Toxic Substances Control Act (TSCA). The MSE standards also apply to commercial contractor organizations and groups within companies conducting measurements at their own facilities for regulatory purposes.

Table 7-1. Overview of the Step-wise Process for Accreditation

Source Testing Firm Requirements
Request for Application
Application Package
Application Package Evaluation
Assessment Plan
Performance Testing
On-Site Assessment
Review and Approval
Granting of Accreditation
Maintaining Accreditation

7.3.1.1 Overview

The structure of MSE is based on the grouping of testing procedures using the methods published in the Code of Federal Regulations: 40 *CFR* 60 Appendices A and B, 40 *CFR* 61 Appendix B, 40 *CFR* 51 Appendix M, and 40 *CFR* 63 Appendix A and 40 *CFR* 266 Appendix IX. Other applicable methods are included from the EPA Report SW-846, "Test Methods for Evaluating Solid Waste" when such methods are for determining air source emissions for compliance purposes. All methods listed in the method group are published in the *Code of Federal Regulations* unless other sources are indicated. Table 7-1 provides an overview of the step-wise process for accreditation of source testing firms.

A source testing firm may be conducting emission measurements at the facilities of its parent organization, i.e., the testing group is an in-house entity. In this instance, the testing group would obtain accreditation through its parent organization and may use that parent organization's resources

with regard to meeting the relevant NELAC standards to the extent that they are directly applicable to emission measurement operations.

The structure of the accreditation requirements in the MSE standard provides flexibility by grouping source test methods used for compliance testing. It allows for the incorporation of new methods without source testing firms and individuals repeatedly demonstrating, in full, the basic requirements that they had previously satisfied. The intent of method grouping is to avoid redundant, unnecessary reviews, or duplicate full assessments and to therefore significantly expedite the processing of applications which cover additional method groups or methods. Each method group is based on similar sampling or measurement method complexity.

7.3.1.2 Overview of Requirements for MSE Accreditation

All source testing firms applying for accreditation are subject to an on-site assessment at the company's home base facility, and an assessment in the field where the firm is conducting source emission testing (see Section 7.3.3). In addition, the source test firm must demonstrate the ability to provide qualified field technical directors (to be defined in Section 7.3.4), and must have a documented quality system in place that meets the requirements of Section 7.3.5.

7.3.1.3 Overview of Requirements for Field Technical Director

A source testing firm must have the capability to provide competent, responsible individuals to either conduct or supervise testing at a test site for each of the test methods being performed. Once a individuals have demonstrated that they are competent to be responsible for a source test, they are also responsible to maintain records demonstrating their competence if their employment status changes.

7.3.1.4 Grouping of Testing Methods

Grouping of test procedures will be based on the methods published in the Code of Federal Regulations: 40 *CFR* 60 Appendices A and B, 40 *CFR* 61 Appendix B, 40 *CFR* 51 Appendix M, and 40 *CFR* 63 Appendix A and 40 *CFR* 266 Appendix IX. Other applicable methods are included from the EPA Report SW-846, "Test Methods for Evaluating Solid Waste" when such methods are for determining air source emissions for compliance purposes.

Methods Not Included for Accreditation
EPA Method 9 has its own certification procedures in place, and should not be incorporated into NELAC.

Other EPA and SW-846 methods which include some aspects of sampling are excluded from this document. Methods which were considered but were excluded are as follows: EPA Methods 24, 24A, 25D, 25E, 105, 107, 107A, 108A, 108B, 108C, and 111 since they would be covered under NELAC for laboratories; EPA Methods 28 and 28A are not included since they would be more appropriately covered under a facility accreditation program specific to the testing described in the methods.

7.3.2 Proficiency Testing (PT) Program

Those details that are different from, or in addition to, the requirements of NELAC, Chapter 2 will be provided here.

7.3.3 On-Site Assessment

The on-site assessment is an integral and requisite part of a field measurement and laboratory accreditation program and will be one of the primary means of determining a source testing firm's capabilities. During the on-site assessment, the assessment team will collect and evaluate information and make observations which will be used to judge the laboratory's conformance with established accreditation standards.

The procedures to be developed will apply to the on-site accreditation process specific to MSE. The nature of source testing demands two types of on-site assessment. The first assessment is a facility assessment; in the case of source testing firms, this means an assessment at the home base facility (e.g., equipment inventory, record keeping practices, data management, and in-house laboratory activities). The second type of on-site assessment is an evaluation of the source testing firm's activities at a field test site.

Accrediting authorities are not required to provide advance notice when assessing the home base facility. However, when performing an assessment at a field location, admission to the test site is frequently controlled by the host facility. Advance notice, must be given to both the test firm and the host test-site facility in order to ensure access to the field location by the assessors. Denial of access to the accrediting authority by the host field test site will not prejudice the eventual decision for accreditation provided appropriate rationale is given.

7.3.3.1 Pre-assessment Procedures

The following sections, to be developed specifically for MSE from NELAC standards, will describe planning and the scope of the information gathering to be performed as part of the preassessment.

7.3.3.1.1 Scope of the Assessment

Testing Firm Facility and Field Activities Assessments

7.3.3.1.2 Information Collection and Review

7.3.3.1.3 Assessment Documents

7.3.3.2 Assessment Procedures

7.3.3.2.1 Length of Assessment

7.3.3.2.2 Opening Conference

7.3.3.2.3 On-Site Laboratory Records Review and Collection

7.3.3.2.4 Staff Interviews

7.3.3.2.5 Follow-up and Reporting Procedures

7.3.3.3 Standards for Assessment

7.3.4 Accreditation Process

Those details, to be developed, will apply to the accreditation process specific to MSE.

7.3.4.1 Components of Accreditation

7.3.4.1.1 Personnel Qualifications

7.3.4.1.2 On-Site Assessments

Refer to on-site assessment in NELAC Section 3 for information regarding frequency, procedures, criteria, scheduling, and documentation of on-site assessments. Also, changes from, or additions to, NELAC Section 3, when developed, will be included here.

7.3.4.1.3 Proficiency Testing

7.3.4.1.4 Accountability for Ethical Standards

Elements that ensure consistency and promote the use of quality assurance/quality control procedures to generate quality data are the same as those in the NELAC standards. However, due to the limited number of employees in many source testing firms, the Quality Assurance Officer might not be a person other than a supervisor.

The primary accrediting authority will consider that the accountability for negligence or the falsification of data, rests upon the test company, the test company management, and the field technical director.

7.3.4.1.5 Application Package, Components, and Use

Application packages should contain the necessary questionnaires and forms to be used by the source testing firm for recording information regarding organization and management, personnel, facilities, testing equipment, reporting formats, quality assurance plan, capabilities and history of experience, and any other information requirements relevant to the method groups or methods for which accreditation is sought. The accreditation application and/or renewal package for accreditation purposes provides information required by NELAC.

7.3.4.1.6 Change of Ownership and/or Location of Source Test Firm

7.3.4.1.7 Certification of Compliance Statement

The “Certification of Compliance” statement must accompany applications for source testing firm accreditation, and this statement is anticipated to be developed based on existing NELAC standards.

7.3.5 Quality Systems

Those details that are different from, or in addition to, the requirements of NELAC Chapter 5 are provided here. These changes, or additions, are necessary to account for different circumstances encountered during field testing and measurements Where no different approach or addition to the NELAC standards is needed, it will be indicated as such.

As stated in NELAC Chapter 5, Quality Systems include all quality assurance (QA) policies and quality control (QC) procedures, which must be delineated in a Quality Manual and followed to ensure and document the quality of emission measurement data.

A universal difference between fixed laboratories and field activities is the changing test environment and conditions which must be adapted to. Managing change can sometimes be in direct conflict with quality systems, which require controls. Therefore, a balance must be established between the flexibility demanded by changing field test situations and the more rigid controls demanded by conventional quality systems.

Quality system documentation requirements for a source emission testing firm do not vary from the NELAC standards. However, implementation of this quality system during field operations would vary according to the scope of testing, potentially creating a new work cell with every field test. Clarifications to the NELAC Quality System requirements to fit the realities of source emission testing, when developed, will be provided in the remaining sections.

7.3.5.1 Organization and Management

(Reserved)

7.3.5.2 Quality System -- Establishment, Audits, Essential Quality Controls, and Data Verification

(Reserved)

7.3.5.3 Personnel

(Reserved)

7.3.5.4 Physical Facilities—Accommodation and Environment

(Reserved)

7.3.5.5 Equipment and Reference Materials

(Reserved)

7.3.5.6 Measurement Traceability and Calibration

(Reserved)

7.3.5.7 Test Methods and Standard Operating Procedures

(Reserved)

7.3.5.8 Sample Handling, Receipt, and Acceptance Policy

(Reserved)

7.3.5.9 Records and Sample Storage

(Reserved)

7.3.5.10 Report Format and Content

(Reserved)

7.3.5.11 Subcontracting Field Sampling

(Reserved)

7.3.5.12 Outside Support Services and Supplies

(Reserved)

Appendix A - REFERENCES

ISO/IEC 17025:1999(E), "General Requirements for the Competence of Testing and Calibration Laboratories," 1999.